Organisms: Life Science for Fourth Grade

2017 Science P.L.U.S. Institute

Roper Mountain Science Center
Greenville, South Carolina

Academic Course Description:

This will be a hands-on, inquiry-based class, with activities emphasizing science process skills. Instructors will provide the vehicles for studying concepts that correlate to the South Carolina Science Academic Standards for fourth grade life science, called Organisms. Course topics are designed to enhance the elementary school teacher's life science knowledge base, and provide appropriate lessons for the 4th grade science classroom. Activities are aimed at developing awareness in students of the basic processes of plant and animal life and how organisms change and interact with their environment. Field studies extend the classroom into the outdoor habitats represented at Roper Mountain Science Center. Participants receive a significant quantity of science materials for performing the activities in their classrooms.

Outline of Course Content: Life Science: Characteristics and growth of organisms

4.L.5: The students will demonstrate an understanding of how the structural characteristics and traits of plants and animals allow them to survive, grow, and reproduce.

Day of the Week	Topics	Activities	Correlation to SC Science Academic Standards
Monday	**Classification of Plants & Animals**	Welcome & Overview □ Pretest □ "Save Fred" □ Classification puzzle □ "Animal Guessing Game" with name tag holders and cards □ Animal research project □ Shepard software web game □ Vertebrate / Invertebrate: cover w/ clay investigation □ "Jeopardy: Vertebrate/ invertebrate: website under "Topics" □ Invertebrate Observation: worms □ Owl Pellet dissection: bones or no bones?	**4.L.5A.1:** Obtain and communicate information about the characteristics of plants and animals to develop models which classify plants as flowering or nonflowering and animals as vertebrates or in vertebrates.
Tuesday	**Growth and Development of living things**	Mix & Match Traits Game □ "What are flowers for: dissection □ Dissect a soaked Bean	**4.L.5A.2:** Analyze and interpret data from observations and measurements to compare the stages of development of different seed plants. **4.L.5A.3:**

		□ Plant “Cress seed heads” □ Plant “Germination Bags” □ How do flowers drink? Celery dye & dissection □ Life cycle model race □ Baby name game □ Measuring Magic Grow Animals □ Build an ecosystem: River Tank □ Life cycle observation: Frog Eggs Kit for classroom □ Life Cycle Smart Board Intro. □ Meal Worm Scavenger Hunt □ Pinecone investigation	Develop and use models to compare the stages of growth and development in various animals.
Wednesday	**Adaptations of Plants and animals**	“Plant –A-Sock” Intro. [outside] □ <u>The Dandelion Seed</u> by Joe Anthony : Dandelion Habitat Study □ Plant-A-Sock activity: observe □ Desert plant sponge activity □ Rainforest leaves □ Leaf chromatography □ Plant printing: observation of plant parts and shapes of nature □ Worms are important too! □ Make a “Bean Maze”: to show how vines grow towards the light □ Plant adaptation matching card game □ Animal & Plant Adaptations Venn w/ hula hoops □ How do insects eat investigation □ Bees dance &	**4.L.5B.2:** Construct explanations for how structural adaptations [such as roots, stems, or leaves; color of flowers; or seed dispersal] allow plants to survive and reproduce. **4.L.5B.3:** Construct explanations for how structural adaptations [such as: method for defense, locomotion, obtaining resources, or camouflage] allow animals to survive in the environment.

		Pollinate □ Living Life as a Plant: video lesson □ Habitat walk [or Thurs. if no time]	
Thursday	**Adaptations of Animals Cont. & Inherited Traits and Behavior Influenced by the Environment**	□ Play "Creepy Animal Adaptation Order" game w/ cards □ Oh Deer game [environmental needs] □ Polar gloves experiment □ "Fashion a Fish" project : Shed Aquarium web game □ Echolocation Activity, □ and Bat cave investigation. □ Birds Beak experiment: Eating □ "Butterfly Camouflage" □ Physical vs Behavioral Adaptation □ Animal Adaptation Charades □ Switch Zoo online game □ Genetic Traits video □ Genetics Lab #1 "I'm the only ME" □ Genetics Lab #2 "My own fingerprints" □ Punnett Squares □ "Chip Off the Old Block" game □ TRAITS BINGO	**4.L.5B.3:** Construct explanations for how structural adaptations [such as: method for defense, locomotion, obtaining resources, or camouflage] allow animals to survive in the environment. **4.L.5A.4:** Construct scientific argument to support claims that some characteristics of organisms are inherited from parents and some are influenced by the environment.
Friday	**Environmental Challenge** **Activity & Idea sharing** Final Assessment	□How Healthy is Your Ecosystem?" Challenge □Lesson Sharing □Final Test	**4.L.5B.1:** Develop and use models to compare how humans and other animals use their senses and sensory organs to detect and respond to signals from the environment.

Daily Activities:

- Hands-on investigations
- Experience sharing: what have you done in your classroom with this topic?

- Journaling
- Self-evaluation